AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) <u>One or more computer storage media having computer-useable instructions embodied thereon for performing a</u> [[A]] method for monitoring a process, the method comprising:

creating a signature representative of the process;

continuously updating the created signature with a weighting scheme; and

detecting abnormalities based upon the continuously--updated signature,

wherein the process is related to usage of networked computing devices in a datacenter,

wherein the signature includes information related to time--sensitive averaging that accounts for variation in a business cycle, ~~and~~

wherein the weighting scheme consists of a first weighting factor that represents a continuously-updated signature weight and a second weighting factor that represents a current data weight[[,]]

<u>wherein creating a signature comprises accelerated learning through setting a learning responsiveness ratio and incrementally increasing the learning responsiveness ratio until the learning responsiveness ratio reaches a desired value, and</u>

<u>wherein the learning responsiveness ratio is equated to the second weighting factor divided by the first weighting factor.</u>

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2. (Currently Amended) The ~~method~~ media of claim 1, wherein creating a signature comprises calculating an average and a standard deviation.

3. (Canceled).

4. (Currently Amended) The ~~method~~ media of claim 2, wherein creating a signature comprises initially repeating a running average and standard deviation through a plurality of intervals.

5. (Currently Amended) The ~~method~~ media of claim 1, wherein updating the created signature comprises ensuring that recently-recorded data has a greater impact than older data by setting the second weighting factor to a value greater than the first weighting factor.

6. (Currently Amended) The ~~method~~ media of claim 1, wherein updating the created signature comprises utilizing a moving average over a time to account for events occurring at unexpected times.

7. (Currently Amended) The ~~method~~ media of claim 1, wherein detecting abnormalities comprises determining if measured values are above an upper threshold or below a lower threshold.

8. (Currently Amended) The ~~method~~ media of claim 1, further comprising calculating upper and lower threshold limits based on jitter offset.

9. (Canceled).

10. (Currently Amended) <u>One or more computer storage media having computer-useable instructions embodied thereon for performing a</u> [[A]] method for detecting abnormalities occurring during a process based upon a continuously updated signature representative of the process, the method comprising:

creating a signature representative of the process,

continuously updating the created signature with a weighting scheme;

continuously monitoring a system parameter;

computing a normal range of values for the system parameter based on the continuously-updated signature;

determining if the monitored system parameter is within the normal range; and

indicating existence of an abnormality if the monitored system parameter is outside of the normal range,

wherein the process is related to usage of networked computing devices in a datacenter, ~~and~~

wherein the weighting scheme consists of a first weighting factor that represents a continuously-updated signature weight and a second weighting factor that represents a current data weight[[,]]

<u>wherein creating a signature comprises accelerated learning through setting a learning responsiveness ratio and incrementally increasing the learning responsiveness ratio until the learning responsiveness ratio reaches a desired value, and</u>

<u>wherein the learning responsiveness ratio is equated to the second weighting factor divided by the first weighting factor.</u>

11.   (Currently Amended) The ~~method~~ media of claim 10, further comprising creating a signature by calculating an average and a standard deviation.

12.   (Canceled).

13.   (Currently Amended) The ~~method~~ media of claim 11, wherein creating a signature comprises initially repeating the running average and standard deviation through a plurality of intervals.

14.   (Currently Amended) The ~~method~~ media of claim 10, wherein computing a normal range of values comprises ensuring that recently-recorded data has a greater impact than older data by setting the second weighting factor to a value greater than the first weighting factor.

15.   (Currently Amended) The ~~method~~ media of claim 10, wherein computing a normal range of values comprises utilizing a moving average over a time to account for events occurring at unexpected times.

16.   (Currently Amended) The ~~method~~ media of claim 10, wherein determining whether a monitored system parameter is within a normal range of values comprises determining if monitored system parameters are above an upper threshold or below a lower threshold.

17.   (Currently Amended) The ~~method~~ media of claim 16, further comprising calculating upper and lower threshold limits based on jitter offset.

18.   (Canceled).

19.   (Currently Amended) <u>One or more computer storage media having computer-useable instructions embodied thereon for performing a</u> [[A]] method for creating a signature useful for detecting abnormalities in a computing system environment, the method comprising:

setting a learning responsiveness ratio;

monitoring a system parameter;

adjusting the learning responsiveness ratio at fixed intervals until a desired value is reached;

calculating an average and standard deviation for each interval; and

using the average, standard deviation and learning responsiveness ratio to create the signature,

wherein the learning responsiveness ratio is equated to a weighting factor that represents current data divided by a weighting factor that represents the signature,

wherein the abnormalities in the computing system environment relate to usage of networked computing devices in a datacenter, and

wherein the signature includes information related to time--sensitive averaging that accounts for variation in a business cycle.

20.   (Currently Amended) The <s>method</s> <u>media</u> of claim 19, further comprising continuously updating the created signature through a weighting scheme,

wherein the weighting scheme consists of a first weighting factor that represents a continuously-updated signature weight and a second weighting factor that represents a current data weight.

21.   (Currently Amended) The ~~method~~ media of claim 20, further comprising detecting abnormalities based on the updated signature.

22.   (Currently Amended) The ~~method~~ media of claim 19, wherein creating a signature comprises initially repeating the running average and standard deviation through a plurality of intervals.

23.   (Currently Amended) The ~~method~~ media of claim 20, wherein updating the created signature comprises ensuring that recently-recorded data has a greater impact than older data by setting the second weighting factor to a value greater than the first weighting factor.

24.   (Currently Amended) The ~~method~~ media of claim 20, wherein updating the created signature comprises utilizing a moving average over a time to account for events occurring at unexpected times.

25.   (Currently Amended) The ~~method~~ media of claim 21, wherein detecting abnormalities comprises determining if measured values are above an upper threshold or below a lower threshold.

26.   (Currently Amended) The ~~method~~ media of claim 21, further comprising calculating upper and lower threshold limits based on jitter offset.

27.   (Canceled).

28.   (Currently Amended) A computerized system including one or more computer storage media ~~medium~~ for detecting abnormal activity in a computerized environment, the system comprising:

monitoring tools <u>stored on the computer storage media</u> for continuously monitoring a system parameter;

a continuously updated signature representative of typical values of the system parameter

an abnormality indicator calculated based on the continuously updated signature, the abnormality indicator including a range of typical values for the system parameter,

wherein the signature is continuously updated with a weighting scheme,

wherein the weighting scheme consists of a first weighting factor representing the weight of the continuously-updated signature and a second weighting factor representing the weight of current data,

wherein the abnormal activity is related to abnormal usage of networked computing devices in a datacenter, ~~and~~

wherein the signature includes information related to time—sensitive averaging that accounts for variation in a business cycle[[,]]

<u>wherein the signature is created by accelerated learning through setting a learning responsiveness ratio and incrementally increasing the learning responsiveness ratio until the learning responsiveness ratio reaches a desired value, and</u>

<u>wherein the learning responsiveness ratio is equated to the second weighting factor divided by the first weighting factor.</u>

29.   (Previously Presented) The system of claim 28, wherein the continuously--updated signature comprises an average and a standard deviation.

30.   (Previously Presented) The system of claim 28, wherein the continuously updated signature comprises the second weighting factor having a greater value than the first weighting factor to ensure that recently recorded data has a greater impact than older data.

31.   (Previously Presented) The system of claim 28, wherein the continuously updated signature comprises a moving average over time to account for events occurring at unexpected times.

32.   (Original) The system of claim 28, wherein the abnormality indicator determines whether a monitored system parameter is within a normal range of values and whether monitored system parameters are above an upper threshold or below a lower threshold.

33.   (Original) The method of claim 28, wherein the abnormality indicator calculates upper and lower threshold limits based on jitter offset.

34.   (Currently Amended) A computerized monitoring system including <u>one or more</u> computer storage <u>media</u> ~~medium~~ for monitoring a process, the monitoring system comprising:

        a signature creation module<u>, stored on the one or more computer storage media,</u> for creating a signature representative of the process;

        a signature updating module<u>, stored on the one or more computer storage media,</u> for continuously updating the created signature; and

        an abnormality detection module<u>, stored on the one or more computer storage media,</u> for detecting abnormalities based upon deviations from the updated signature,

        wherein the signature is continuously updated with a weighting scheme,

wherein the weighting scheme consists of a first weighting factor that represents a continuously-updated signature weight and a second weighting factor that represents a current data weight,

wherein the signature creation module comprises tools for performing accelerated learning through incrementally increasing a learning responsiveness ratio until the learning responsiveness ratio reaches a desired value,

wherein the learning responsiveness ratio is equated to the second weighting factor divided by the first weighting factor,

wherein the process is carried out on a computer and is related to usage of networked computing devices in a datacenter, and

wherein the signature includes information related to time sensitive averaging that accounts for variation in a business cycle.

35.   (Original) The system of claim 34, wherein the signature creation module includes tools for calculating an average and a standard deviation.

36.   (Canceled).

37.   (Original) The system of claim 35, wherein creating a signature comprises initially repeating the running average and standard deviation through a plurality of intervals.

38.   (Previously Presented) The system of claim 34, wherein the signature updating module comprises tools for ensuring that recently-recorded data has a greater impact than older data by setting the second weighting factor to a value greater than the first weighting factor.

39.   (Original) The system of claim 34, wherein the signature updating module comprises tools for calculating a moving average over a time to account for events occurring at unexpected times.

40.   (Original) The system of claim 34, wherein the abnormality detection module determines if monitored system parameters are above an upper threshold or below a lower threshold.

41.   (Original) The method of claim 34, wherein the abnormality detection module includes a mechanism for calculating upper and lower threshold limits based on jitter offset.

42.   (Currently Amended) <u>One or more computer storage media having computer-useable instructions embodied thereon for performing a</u> [[A]] method for distinguishing between normal and abnormal behavior during a process, the method comprising:

        creating a signature representative of the process;

        continuously updating the created signature with a weighting scheme;

        monitoring a system parameter;

        converting a numeric data stream representative of the monitored system parameter to a state for the process; and

        distinguishing between normal and abnormal behavior based on the state,

        wherein the process is related to usage of networked computing devices in a datacenter,

        wherein the weighting scheme consists of a first weighting factor that represents a continuously-updated signature weight and a second weighting factor that represents a current data weight,

wherein the system parameter includes at least one of a usage variable, utilization, an error, and turn around time, ~~and~~

wherein distinguishing between normal and abnormal behavior includes utilizing time sensitive averaging to account for variation in a business cycle[[,]]

wherein the signature is created by accelerated learning through setting a learning responsiveness ratio and incrementally increasing the learning responsiveness ratio until the learning responsiveness ratio reaches a desired value, and

wherein the learning responsiveness ratio is equated to the second weighting factor divided by the first weighting factor.

43.   (Currently Amended) The ~~method~~ media of claim 42, further comprising converting the numeric data streams to multiple sub-states.

44.   (Currently Amended) The ~~method~~ media of claim 42, further comprising determining a root cause of an abnormality based on the state.